

Patient Isolation Unit (PIU) Discharge Plan

Background

Patients admitted to the PIU will undergo case by case basis for discharge to community depending on the infectious pathogen in question as well as community and home resources available. A major component of discharge will be satisfactory evidence of lack of communicability or public health threat, as determined by the treating physician as well as the local and state public health bodies, in addition to guidance put forth by the Centers for Disease Control and Prevention where applicable.

Pre Discharge Preparation

These steps below describe the steps that should be undertaken as part of the pre-discharge planning for any patients admitted to PIU.

- 1) Immediately after admission to PIU, the clinical care team should ascertain the following elements of patient's living situation:
 - a. Presence and ages of family members or roommates sharing living space with patient.
 - b. Presence of any pets in the household.
 - c. Type of living space occupied by patient (i.e. apartment building, single-family house) and whether it is rented or owned (this may affect patient's ability to return home).
- 2) Clinical care team, led by the infectious diseases attending, will discuss potential options that may exist with discharge depending on guidance from public health authorities, patient preference and clinical situation.
- 3) With patient permission, the treating physician will offer to hold family conference to answer any immediate questions from the family regarding patient condition as well as public health advisories associated with pathogen in question, as well as recommendations for household contacts.
- 4) Treating physician will share this information as needed with public health bodies or the hospital epidemiologist as is needed to help determine discharge plan.

Discharge Procedure

Stability for discharge will include assessment of clinical status, communicability and social situation. The exact criteria will be different depending on the pathogen in question. Community activity restrictions and other public health recommendations will be shared with the patient once appropriate public health bodies determine what these are for the case in question. Once the patient is deemed medical stable and safe for discharge, the following procedure must be followed:

- ☐ The treating physician will consult hospital epidemiologist to outline the potential discharge.
- ☐ Treating physician/case management will contact the Boston Public Health Commission, where upon appropriate measures will be taken to contact the Massachusetts Department of Public Health, and from there the local public health authority of the patient's home town.
- ☐ If BPHC AND local board of health are in agreement regarding discharge plans, patient will be provided with a personalized discharge kit that outlines:

- Signs and symptoms of concern that should elicit contacting Boston Medical Center or Research Occupational Health Program if patient is a National Emerging Infectious Diseases Laboratories (NEIDL) employee as well as outline of procedure that will be employed to have patient return to PIU or ID clinic depending on the pathogen or scenario.
 - A thermometer and a fever log and instructions on use
 - Laminated card with contact numbers.
 - Copy of the discharge summary and a patient and family education pamphlet on the disease in question.
- Patient will receive face to face education from the Infectious Diseases physician of record at the PIU.
 - If patient is being followed at home under quarantine, the local public health body will coordinate check ins as determined appropriate based on pathogen or scenario. If patient is a NEIDL employee, both ROHP as well as local public health bodies will determine a mutually agreed upon plan for check in and follow up.

EID Waste Handling Procedure

Waste Collection

Bio hazard boxes lined with 3 red bio hazard bags will be staged in the patient isolation room. Once the box is $\frac{3}{4}$ full the nurse will seal the bag. Wipe the outside of the bag with bleach wipes and place in the trash container located in the bathroom pending regularly scheduled trash pickup.

Trash will be picked up for transport to the bio containment trash room once per shift.

PIU nurses will inform the site manager if additional trash pickup is needed.

The PIU site manager will contact the housekeeping supervisor on pager #5183 to pick up the waste.

Waste transfer

The EVS supervisor will deliver a DOT approved bio transport container on a cart to the PIU entry door.

The site manager will open the door and receive the DOT approved container and cart.

The DOT approved container and cart will remain in the clean area of the PIU and will be placed at the line demarcating the clean and dirty sides of the PIU.

PIU nurses will remove the trash bags from the trash bathroom trash container and wipe the outside of the bag with bleach wipes.

The trash bag will be passed to the buddy outside the patient room. The buddy will place the trash bag in the DOT approved container. This will be repeated until all trash bags have been removed.

The buddy will clean their gloves with hand sanitizer then remove and replace their outer gloves.

With clean gloves, the buddy will place the cover on the DOT approved container. The sealed container will be wiped down with bleach wipes.

The buddy will clean their gloves with hand sanitizer then remove and replace their outer gloves.

The site manager will open the door to the unit and pass the cart with the DOT approved container to the EVS supervisor.

Transport to the Secured Trash Holding Area

EID Waste Handling Procedure

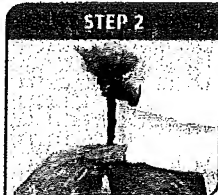
The EVS Supervisor will put on a pair of black transport gloves and then transport the bio hazard waste from the PIU directly to the holding area using the service elevators where it is stored until picked up and disposed of by our contracted waste hauler.

Once the EVS Supervisor has properly secured the waste in the designated holding area, he then must disinfect his gloves and then clean the transport cart with bleach.

Regulated Medical Waste (Red Bag) Closure Procedure



STEP 1
Place all Biomedical waste into appropriately marked bag. Do not fill the bag more than three quarters full.



STEP 2
Gather and twist the top of the red bag.



STEP 3
Twist bag closed with tie or single hand knot.

EMS Handoff of Highly Infectious Disease Patients to BMC

1. BMC is notified by Mass Department of Public Health (MDPH) and the Boston Public Health Commission (BPHC) with a referral of a suspect case in the community or at another hospital.
2. The individual receiving the notification (Infectious Disease, BMC Epidemiology, BMC ED attending, or BMC administration) will activate the Ebola reporting protocol.
3. BPHC requests transport assistance from Boston Emergency Medical Services (BEMS). Whenever possible and if the patient condition allows, transport of the patient will be delayed until Room 8 in the BMC 5E MICU is ready to receive the patient. If the patient condition requires more urgent care, the patient will be managed in the BMC ED until the ICU is ready.
4. BEMS coordinates the transport of the patient to BMC.
5. The BMC ED will be given an entry note via the C-Med Radio by BEMS when transport is in progress. BEMS will provide information on the patient's illness and acuity.
6. Upon first notification, the Emergency Department will initiate "Biological Ambulance Entry" protocol.
 - a. Call the control center at 4 – 4144 and request assistance from facilities to deploy the BMC Zumro decon tent in the ambulance bay.
 - b. The Ebola prep team will be notified via Send Word Now by the hospital emergency manager or designee. The group will include housekeeping, and materials management to bring PPE and waste management supplies.
 - c. Preparation of Arrival Area
 - i. The BMC Decon tent will be deployed to the far right 2 ambulance parking spots (nearest to the old ED walk-in entrance).
 - ii. Orange cones (available with the decon equipment) will be used to delineate the point at which the patient will be handed off from BEMS (in the contaminated "Hot zone") to BMC staff (in the non-contaminated "warm zone").
 - iii. Trash and doffing supplies will be made available inside the tent
 1. 2 biohazard boxes with 3 biohazard bags in each will be placed in the tent for EMS doffing.
 2. At least 2 chairs will be placed inside the tent.
 3. Sanitizer on mobile stands will be placed inside the tent
 - d. 2 nurses (transport team) will Don PPE and await the arrival of the ambulance in the demarcated "clean" area (hospital entrance side) of the tent.
7. The ambulance will back up to the tent entrance (street side).
8. Patient will be moved from the ambulance into the tent by BEMS
 - a. If patient is Ambulatory, patient will walk out of ambulance and be escorted by BEMS to the demarcated hot zone in the tent.
 - b. If patient is Non-ambulatory, patient will be removed from the ambulance on EMS stretcher and brought in to the demarcated hot zone in the tent.
9. The patient will be transferred to BMC staff who will be waiting in the demarcated cold zone inside the tent with a wheel chair or stretcher depending on the patient's condition.
10. The patient will remain clothed in the full protective Tyvek suit until moved into negative flow isolation. The 2 staff nurses will move the patient to the area designated for clinical care [REDACTED]. One nurse will enter the negative flow isolation room to assist the patient. The Second nurse will standby as the buddy.

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11. BEMS will remain at the tent for ambulance clean up and doffing of PPE
 - a. EMS will remove plastic sheeting from their ambulance and discard in the provided red bag waste.
 - b. The Ambulance will be cleaned per EMS protocol
 - c. Once ambulance cleaning is complete, the ambulance doors will be closed. BEMS will enter the tent and close the zipper at the ambulance side of the Decon tent
 - d. BEMS will doff according to their protocol and discard in the inner bag of the triple bagged bio hazard waste container.
 - e. BEMS will close and tie the inner red bag.
 - f. EMS will remove their inner gloves and discard into the open middle red bag of the bio hazard waste container.
 - g. EMS will exit the Decon tent via the hospital side and zip the tent closed
 - h. EMS may then enter ED to wash hands.
 - i. BMC Environmental Services staff will respond to disinfect the tent and remove the trash according to the BMC Ebola Waste Management protocol.

BMC PIU IsoPod Instructions

1. Remove the following parts from the bag
 - IsoPod
 - 4 plastic rods
 - 3 filters
 - 1 battery pack
 - Blower unit
2. Open the Iso Pod and place on a stretcher
3. Attach the blower unit to the labeled port at the foot of the IsoPod
4. Attach the filters
 - 2 at the head
 - 1 inside the pod at the blower unit
5. Close the valve at the foot
6. Place the patient in the unit
7. Connect the ribs across the unit (6 in total)
8. Insert the plastic rods lengthwise between the ribs
9. Turn on the blower
10. Zip up the unit

Video Instructions can be viewed at <https://www.youtube.com/watch?v=hnFcZmWutZI>

BOSTON MEDICAL CENTER
DEPARTMENT OF LABORATORY MEDICINE
LABORATORY SUPPORT SERVICES
HAND VENIPUNCTURE PROCEDURE

NAME: _____

SIGNATURE _____

By signing I acknowledge that I am aware, have read and understand the policies and procedures.

	HAND VENIPUNCTURE PROCEDURE	Date	Employee Initials
1	Prepare paperwork and review requisition(s) &/or labels(s).		
2	Introduce yourself using approved script.		
3	Disinfect hands using hospital approved disinfectant or wash hands.		
4	Put on gloves.		
5	Identify the patient according to Patient Identification Procedure.		
6	Verify diet restrictions if needed.		
7	Assemble equipment and supplies.		
8	Attach a 25 gauge butterfly to a holder. Assemble all equipment and supplies.		
9	Reassure and position the patient.		
10	Apply tourniquet just beyond the wrist bone and have the patient make a fist.		
11	Select venipuncture site.		
12	Cleanse venipuncture using appropriate disinfectant.		
13	Anchor the vein.		
14	Hold butterfly wing and insert needle into vein.		
15	Advance butterfly needle until flash of blood appears in tubing.		
16	Anchor needle to prevent it from coming out of the vein.		
17	Place and fill tubes following the tube order of draw.		
18	Remove tubes from holder and mix if applicable.		
19	Release tourniquet within 1 minute of application.		
20	Place gauze, withdraw needle, properly activate the needle safety device and apply pressure to the site.		
21	Dispose of sharps in proper container.		
22	Write collection time and tech code on ALL tubes collected.		
23	Label all tubes in the presence of the patient. Dispose labels in proper container.		
24	Complete paperwork and prepare specimen for transport.		
25	Remove gloves and wash hands.		
26	Thank the patient.		

TRAINER: _____

Date _____

TRAINER SIGNATURE: _____

Revised: 10/7/2013

BOSTON MEDICAL CENTER
DEPARTMENT OF LABORATORY MEDICINE
LABORATORY SUPPORT SERVICES
ROUTINE VENIPUNCTURE PROCEDURE CHECKLIST

NAME: _____

SIGNATURE _____

By signing I acknowledge that I am aware, have read and understand the policies and procedures.

	ROUTINE VENIPUNCTURE PROCEDURE	Date	Employee Initials
1	Prepare paperwork and review requisition(s) &/or labels(s).		
2	Introduce yourself using approved script.		
3	Disinfect hands using hospital approved disinfectant or wash hands.		
4	Put on gloves.		
5	Identify the patient according to Patient Identification Procedure.		
6	Verify diet restrictions if needed.		
7	Assemble equipment and supplies.		
8	Reassure and position the patient.		
9	Put on gloves.		
10	Apply tourniquet and have the patient make a fist.		
11	Select venipuncture site.		
12	Cleanse venipuncture site using appropriate disinfectant.		
13	Anchor the vein.		
14	Insert needle into vein.		
15	Place and fill tubes following the "tube order of draw".		
16	Remove tubes from holder and mix if applicable.		
17	Release tourniquet within 1 minute of application.		
18	Place gauze, withdraw needle, properly activate the needle safety device and apply pressure to site.		
19	Dispose sharps in proper disposal.		
20	Write collection time and tech code on ALL tubes collected.		
21	Label all tubes in the presence of the patient. Dispose labels in proper container.		
22	Complete paperwork and prepare specimen for transport.		
23	Check the venipuncture site and apply bandage.		
24	Remove gloves and wash hands.		
25	Thank the patient.		

TRAINER: _____

TRAINER SIGNATURE: _____

Date: _____

Revised: 10/7/2013

BOSTON MEDICAL CENTER
DEPARTMENT OF LABORATORY MEDICINE
LABORATORY SUPPORT SERVICES
BLOOD CULTURE PROCEDURE CHECKLIST

NAME: _____
SIGNATURE _____

By signing I acknowledge that I am aware, have read and understand the policies and procedures.

	BLOOD CULTURE PROCEDURE	Date	Employee Initials
1	Prepare paperwork and review requisition		
2	Introduce yourself using approved script.		
3	Disinfect hands using hospital approved disinfectant or wash hands.		
4	Put on gloves.		
5	Identify the patient according to Patient Identification Procedure.		
6	Verify diet restrictions if needed.		
7	Assemble equipment and supplies.		
8	Reassure and position the patient.		
9	Apply tourniquet and have the patient make a fist.		
10	Select venipuncture site.		
11	Release tourniquet.		
12	Adults and children older than 2 months, aseptically cleanse the site with Chloraprep		
13	Infants less than 2 months old, clean site two additional times with separate alcohol wipes.		
14	Allow site to dry completely.		
15	Clean tops of blood culture bottles with separate alcohol wipes.		
16	Reapply tourniquet, being careful not to touch the collection site. Release the tourniquet after 1 minute of application.		
17	Anchor the vein without touching the venipuncture site.		
18	Perform the venipuncture according to the Routine Venipuncture Procedure and Hand Venipuncture Procedure.		
19	Place gauze, withdraw needle, properly activate the needle safety device and apply pressure.		
20	Remove safety needle device and attach bottle adapter.		
21	Inoculate bottle(s) with blood per guideline for optimal volume.		
22	Mix blood culture containers gently.		
23	If applicable, place and fill tubes following the tube order of draw.		
24	Remove tubes from holder and mix if applicable		
25	Dispose sharps in proper disposal.		
26	Dispose of used materials properly.		
26	Write collection time and tech code on ALL tubes collected.		
27	Label all tubes in the presence of the patient. Discard labels in proper container and gather materials.		
29	Check the venipuncture site again and apply bandage.		

BOSTON MEDICAL CENTER
DEPARTMENT OF LABORATORY MEDICINE
LABORATORY SUPPORT SERVICES

	BLOOD CULTURE PROCEDURE	Date	Employee Initials
29	Remove gloves and wash hands.		
30	Thank the patient.		

TRAINER: _____

Date _____

TRAINER SIGNATURE: _____

Revised: 10/7/2013

BMC EID Precautions Preparing Laboratory Specimens - PIU

Before entering the isolation area, collect the needed specimen tubes/containers and attach patient labels to them.

Don Personal Protective Equipment (PPE): non sterile long nitrile gloves (1 pair), surgical gloves (1pair), impervious coverall, plastic apron, MaxxAir PAPR and hood, shoe covers.

Additional supplies needed: Clear zip lock specimen bags and absorbent pads.

The Nurse in the patient's room

1. Clean the bedside table with bleach wipes
2. Place the absorbent pad on the table with the absorbent side up
3. Place the zip lock bag and sample tubes on the absorbent pad
4. Verify the patient identification using two identifiers
5. Draw/collect your samples
6. Clean the outside of the tubes/sample containers with bleach wipes
7. Place samples in the clear zip lock bags and seal the bag
8. Clean the outside of the bag with bleach wipes
9. Set the lab bag down on the absorbent pad
10. Clean your outer gloves with bleach wipes
11. Carefully remove your outer gloves using the techniques learned in PPE training.
12. Put on a clean pair of outer gloves.
13. Pick up the bag and prepare to hand off to your buddy in the anteroom.
14. When the buddy is ready to receive the samples, the buddy will open the patient's door
15. Place the samples into the bag that is being held open by the buddy.
16. The buddy will close the patient's door
17. Remove and replace your outer gloves.
18. Continue care of the patient

The Buddy in the Anteroom

1. While the nurse in the patient's room is collecting the samples, the buddy will prepare to receive the samples.
2. Clean a table or work surface with bleach wipes
3. Place an absorbent pad with the absorbent side up on the table or work surface
4. Place the zip lock bag on the absorbent pad and wait for the nurse in the patient's room to be ready to hand off the samples.
5. When the nurse in the patient's room indicates readiness, the buddy will move to the door of the patient's room. Remaining in the anteroom, the buddy will open the door of the room.
6. Pick up the clear zip lock bag and hold it open to allow the nurse in the patient's room to place the first bag into the second bag. Seal up the bag.
7. The buddy will shut the door of the patient's room
8. Clean the outside of the bag with bleach wipes
9. Lay the bag on the absorbent pad
10. Clean your outer gloves with bleach wipes
11. Carefully remove your outer gloves using the techniques learned in PPE training.

Updated 11/2/15

12. When the Site Manager indicates he/she is ready to receive the samples, move to the ante space demarcation line and prepare to hand off the samples to the Site Manager.
13. The Site Manager will hold an open plastic container. Place clean sample bag inside the plastic lab container.
14. Clean your outer gloves with bleach wipes
15. Carefully remove your outer gloves using the techniques learned in PPE training.
16. Put on a clean pair of outer gloves
17. Continue with anteroom activities

Site Manager (Working in PPE- gown, 2 pairs gloves, mask, and face shield as needed)

1. The Site Manager will be in PPE as described above
2. The 7W charge nurse will notify the site manager of the arrival of the lab transport staff using Voicera.
3. When ready, open the door to the suite hallway and receive the transport bag from the lab transport staff.
4. Open the transport bag. Remove and open the specimen container. When ready, inform the nurse inside the anteroom.
5. The nurse in the anteroom will place the clean double bagged specimen inside the plastic container.
6. Close the specimen container.
7. Wipe the outside of the container with bleach wipes
8. Place the container in the hard box inside the transport bag and seal it with sealing tape.
9. Wipe the inside of the transport bag with bleach wipes
10. Clean your outer gloves with bleach
11. Carefully remove your outer gloves using the techniques learned in PPE training
12. Put on a clean pair of outer gloves
13. Close the zipper on the transport bag
14. Clean the outside of the transport bag with bleach wipes.
15. Clean your gloves with bleach wipes.
16. Carefully remove your outer gloves using the techniques learned in PPE training.
17. Put on a clean pair of outer gloves

Lab Transport Staff – (No PPE is needed)

1. Two lab transport staff will arrive and inform the unit charge nurse of their arrival. The Site Manager will be informed of the lab transport staff by the charge nurse using Voicera
2. The lab transport staff will wait outside the PIU hallway door.
3. When ready, the Site Manager will indicate readiness to receive the bag and will open the suite hallway door. The Lab transport staff will hand the transport bag to the Site Manager. The site Manager will close the door.
4. When the Site Manager has completed packaging the specimens for transport, he/she will indicate the specimen bag is ready for handoff to the lab personnel.
5. The Site Manager will open the door to the suite hallway and hand off the transport bag to lab transport staff.
6. Lab transport staff will await Public Safety escort.
7. Lab transport staff will transport the samples to the lab receiving area using service elevators to the first floor ED back hallway and proceeding outside via the Shapiro Driveway Ambulance Entrance.

EID Human Waste Handling Procedure

The Massachusetts Water Resource Authority has amended the hospital sewer permits to require that hospital procedures to manage the human waste of patients with suspect or confirmed Ebola *"shall ensure that the wastes are not discharged to the sanitary sewer to the maximum extent practicable"*.

To ensure compliance, BMC will use Isolyser LTS-PLUS as a solidifying agent and discard human waste into the red bag waste stream.

Isolyser LTS-PLUS

- Is an EPA registered product for the treatment of liquid medical waste that allows disposal directly to a landfill as "white bag" waste
- Utilizes a chlorine-based disinfectant that is preferred for its quick action and non-offensive odor.
- Is available in unit dose vials for treatment of canister or liner liquid medical waste, solidification and disinfectant.
- BMC stocks LTSP-3000 so one bottle will solidify 3000ml of bodily fluid.

<http://www.medline.com/product/Isolyser-LTS-PLUS-Solidifier/Disinfectant-Bottles/Solidifiers/Z05-PF02048#>

Urinal

A Unit dose of Isolyser LTS-PLUS will be placed into the urinal prior to use.

After use by the patient, ensure that all the liquid has been absorbed.

Discard the urinal in the red bag waste

Clean your gloves with bleach wipes

Remove and replace your outer gloves

Commode (liquid or solid waste)

Line the commode receptacle with a blue *Sani Bag* waste containment bag or commode liner

A unit dose of Isolyser LTS-PLUS will be placed into the commode prior to use

Ensure all the liquid waste has been absorbed

Close the bag after use

Discard the closed *Sani Bag* in the red bag waste

Clean your gloves with bleach wipes

Clean the commode seat with bleach wipes

Clean your gloves with bleach wipes

Remove and replace your outer gloves

Bed pan/Receptacle for waste or other body fluids

Place a *Sani Bag* into the bedpan or receptacle. Open the bag and fold the edges over the sides of the bed pan or receptacle as you would for a trash bag in a waste basket.

A unit dose of Isolyser LTS-PLUS will be placed into the bedpan prior to use

Once used, touching only the outside of the bag, wrap up the contents and discard it in the red bag waste

Clean your gloves with bleach wipes

If there is no visible waste on the bed pan or receptacle, you may wipe down the bedpan or receptacle with bleach wipes and prepare it with a new *Sani Bag*. If soiled, discard in the red bag waste.

Clean your gloves with bleach wipes

Remove and replace your outer gloves

PIU Patient Transport Process

Transport of a patient following an exposure to a level 4 bio agent will be limited to the essential movement to the PIU.

Patients

Exposed but not ill

- Patients can walk with escort to the unit.

Exposed and ill.

- Patients will be placed in an isopod for ambulance transport and transferred to a BMC bed for transport to the PIU.

Staff and EMS PPE for direct contact

- Exposed but not ill: Universal precautions
- Patient is ill

Impervious coverall suit

Foot covers

Gloves (2 pair)

MaxAir PAPR with hood

Plastic apron

Route

Patient will be transported to the PIU using the Shapiro ambulance entry door, through the ED back hallway to the service elevators and up to 7 West.

Process for Exposed/Not Ill

- Two trained EMS personnel will be dispatched to transport the patient from the lab or from home.
- Patient will be escorted by EMS to the PIU using the most direct route and service elevators.

Process for Exposed/Ill

- Two trained EMS personnel will be dispatched to transport the patient from the lab or from home
- Both EMT's or medics will don PPE
- One of the EMT's or medics will observe the other EMT or medic involved in direct care activities.
- The observer will prepare the isopod
- The direct care provider will assist the patient into the pod
- The observer will close the pod
- The direct care provider will doff the apron and outer gloves.
- The direct care provider will don another apron and gloves.
- The patient inside the isopod will be loaded into the ambulance and transported to BMC
- The decon tent will be set and used as a transfer area to contain contaminated equipment and supplies. Midway inside the tent, a line of demarcation will be set to separate clean and dirty.
- A PIU proceed out team will be deployed to the point of entry (Shapiro Drive ambulance entrance to receive and escort patients to the PIU.
- The patient will remain in the ambulance until the PIU transport team arrives to receive the patient.
- The patient will be transferred to the PIU bed inside the decon tent (the PIU bed remains on the clean side and the EMS stretcher remains on the dirty side).
- Public Safety will commandeer a service elevator and clear the ED Back hallway ahead of the transport team as the patient is moved from one location to another.
- The EMS stretcher will be placed back in the ambulance
- The ambulance will be closed and locked and will remain out of service for cleaning

PIU Patient Transport Process

- EMT's will follow the Doffing procedures.

Updated 11/16/15

BMC Emerging Infectious Disease (EID) Precautions in Patient Isolation Unit (PIU)

Roles and responsibilities

Three EMT's will be assigned to each patient.

EMT 1 will perform direct patient care.

EMT 2 or "**buddy**" will serve as an assistance of clinical care if needed and as an extra observer during donning and doffing. The buddy will not have direct patient contact unless needed for a particular patient care activity or if needed to assist with the doffing of grossly contaminated PPE.

EMT 3 will remain with the ambulance and will be available to monitor the integrity of PPE during donning, and especially doffing. EMT 3 will record vitals of the EMT's who have entered the home or NEIDL and complete the BMC PIU entry log. EMT 3 will be available for radio communications and to drive the ambulance.

Donning Your PPE

Prepare to deploy – Prior to deployment to the home or NEIDL for an ill patient

<input type="checkbox"/>	Report to the BMC PIU Site Manager. The Site Manager will confirm you have completed training, provide a copy of the BMC PIU entry log, and assist with access to the PPE.
<input type="checkbox"/>	Gather your PPE. One, appropriate sized, PPE Go Bag. Check the Go Bag to ensure it contains: Bouffant head cover, an impervious coverall suit, foot covers, two plastic aprons, and 1 XL coverall to put the patient in. The site manager will assist you to gather the correct size non-sterile long nitrile gloves (1 pair), correct size surgical gloves (1pair), a MaxAir PAPR with hood, battery pack, and belt. All PPE should be counted. You should have a total of 11.
<input type="checkbox"/>	Change out of your uniform and put on paper scrubs, socks, and crocs provided. Remove all jewelry, ID's, pens, scissors, etc.
<input type="checkbox"/>	Secure your belongings in the PIU until your return.
<input type="checkbox"/>	Hydrate enroute to the home or NEIDL

Don your PPE - prior to entering the home or NEIDL

<input type="checkbox"/>	The EMT 3 will record vital signs for the EMT's entering the home or NEIDL and will complete the BMC PIU entry log documentation.
<input type="checkbox"/>	Clean your hands with hand sanitizer.
<input type="checkbox"/>	Put on a bonnet head covering
<input type="checkbox"/>	Put on your first set of gloves (the correct size, long nitrile gloves).
<input type="checkbox"/>	Place the PAPR belt around your waist & clip your PAPR battery pack to the belt. Make sure the battery is on the left front of your body to make it easier to plug in the helmet. Wrap extra belt completely and securely around your waist

<input type="checkbox"/>	Put on your coverall. Ensure that your thumb is inserted into the elastic thumb support. Make sure your heels are all the way into the foot of the coverall. Roll up the hood inside your collar.
<input type="checkbox"/>	Put on your foot covers. Take care to tuck any extra suit material around your feet into the booties
<input type="checkbox"/>	Plug In - Plug the PAPR helmet cord into the PAPR battery pack at your waist (this will turn on the air). Check that the light on the front of the helmet turns green indicating a fully charged battery.
<input type="checkbox"/>	Put On - Place the PAPR helmet and hood on your head. Turn the knob at the back of the unit to ensure that the helmet fits snugly on your head. Move your head back and forth and up and down to test the helmet fit. Tighten the knob at the back of the unit to ensure the helmet cannot be moved freely on your head. If your helmet is too loose it may shift position while you are bending, moving, or during doffing.
<input type="checkbox"/>	Zip Up - Tuck in the cord of the PAPR and Zip up your coveralls
<input type="checkbox"/>	Tie Up - Tie the hood ties around your neck in a loose bow on the front of the hood.
<input type="checkbox"/>	Your buddy will assist you to don your plastic apron. <ul style="list-style-type: none"> <input type="checkbox"/> Gently expand the opening for your head and carefully pull the apron over your PAPR helmet. <input type="checkbox"/> Put your arms into the sleeves of apron making sure to place the thumb of your gloved hand into the thumb hole on the apron sleeve. <input type="checkbox"/> Your buddy will crisscross the apron ties through the slots on the back of the apron neck and tie the apron behind you using a loose bow. <input type="checkbox"/> Ensure that the hood ties are tucked under the apron
<input type="checkbox"/>	Your buddy will help you put on your second pair of gloves (surgical gloves). Grasp the cuff of the suit and apron in a fist while your buddy pulls your glove over your fist. Open your hand and place fingers into the appropriate areas of the glove.
<input type="checkbox"/>	The EMT 3 will inspect your PPE front, sides, and back to ensure full coverage and fix any gaps found prior to you entering the home or NEIDL.
<input type="checkbox"/>	You are now ready to enter the home or NEIDL.
<input type="checkbox"/>	The EMT 3 will complete the BMC PIU entry log.

PAPR Specifications:

There are three speeds to the PAPR fan. Adjust the switch the desired speed (high recommended for prolonged use). Status indicator lights for your PAPR battery and filter will appear above the visor of your face shield.

Green – Fully charged and ready for use (8 hours of battery life).

Yellow – Warning that you will soon need to recharge the battery or change the filter

Red – Do not use. Give the unit to the Site manager and don a different unit.

Doff Your PPE

Doffing begins in the tent and is completed in the PIU ante room.

Doffing steps in the tent

<input type="checkbox"/>	After transferring the patient to the BMC PIU team inside the tent, remove the dirty linen from the EMS stretcher and discard it in the red bag waste. Place the EMS stretcher back in the ambulance. Leave the doors open.
<input type="checkbox"/>	Remove your outer gloves and discard in the red bag waste. Put on another pair of gloves.
	Close the doors to the ambulance.
<input type="checkbox"/>	Return to the tent. Take your time, move slowly and purposefully while removing your PPE.
<input type="checkbox"/>	Step onto the doffing chemical pad inside the tent on the dirty side near the line of demarcation.
<input type="checkbox"/>	Clean your outer gloves utilizing automatic hand sanitizer dispenser.
<input type="checkbox"/>	Remove your booties and place them in the dedicated red bag container.
<input type="checkbox"/>	Clean your outer gloves with hand sanitizer again.
<input type="checkbox"/>	Grasp your apron close to the shoulders and pull forward away from your body breaking the ties in the back as you pull. Take care that the apron does not touch the floor and moving slowly, remove the plastic apron by rolling it inside out as you progress down your arms to your wrist and PAUSE there.
<input type="checkbox"/>	Making a fist, slowly and carefully remove the outer gloves with the apron and discard them in the red bag waste.
<input type="checkbox"/>	Clean your inner gloves with the hand sanitizer.
<input type="checkbox"/>	Remove your coveralls <ul style="list-style-type: none"> <input type="checkbox"/> Carefully reach under the PAPR hood with one hand, open the zipper flap on the front of your coverall, and pull down the zipper. <input type="checkbox"/> Grasp the coverall at the shoulders. Touching only the outside of the suit, shimmy your shoulders out of the suit and slowly pull the suit off your arms. <input type="checkbox"/> With your feet, step on the foot section of the coverall and use a marching motion to move the coverall down your legs. <input type="checkbox"/> Pick up coveralls slowly, touching the inside only and discard in red waste container next to the doffing area in the ante room.
<input type="checkbox"/>	Clean inner gloves with hand sanitizer
<input type="checkbox"/>	Step out to the doffing chemical mat on the clean side of the demarcation line.
<input type="checkbox"/>	Remove your PAPR Hood <ul style="list-style-type: none"> <input type="checkbox"/> Untie the hood carefully with one hand <input type="checkbox"/> Grasp both sides of the hood at your temples and unsnap the hood from the PAPR helmet. <input type="checkbox"/> Grasp and pinch the face shield of the hood. Pull forward to release the hood from the helmet pin <input type="checkbox"/> Grasp the top of the hood and rock the hood backwards first then pull forward

	removing the hood in one motion.
<input type="checkbox"/>	Discard the hood in the red bag waste.
<input type="checkbox"/>	Clean inner gloves with hand sanitizer
<input type="checkbox"/>	Using the beaking method, remove inner gloves. Discard into the red bag waste.
<input type="checkbox"/>	Clean your hands with hand sanitizer
	The Site Manager will remove your PAPR helmet, belt, and battery and return it to the PIU.
<input type="checkbox"/>	Step off the doffing mat and await an escort by Public Safety to the PIU. Proceed directly to the sink in the PIU anteroom and perform hand hygiene.
<input type="checkbox"/>	Wear your CROCS when you shower. Don clean cloth scrubs provided in the room.
<input type="checkbox"/>	The Site Manager will log you out of the room.
<input type="checkbox"/>	The shift supervisor will take your vitals after you exit the unit. Instructions will be given to you regarding the requirements for health surveillance.
<input type="checkbox"/>	Hydrate and rest.
<input type="checkbox"/>	Collect your belongings and return to work or home

UNIT _____ DATE 5.11.11

PROCEDURE	MET	UNMET
1. Gather personal protective equipment <ul style="list-style-type: none"> • Paper scrubs • Socks • Crocs • Bouffant Head Cover(optional) • Non sterile Long Nitrile Gloves(1 pair) • Surgical Gloves(1 pair) • Impervious Coverall Suit • Foot Covers • MaxiAir PAPR with hood • Belt for battery pack • Plastic Apron 		
2. Count PPE(10 Items)		
3. Remove all Jewelry, IDs, pens, pagers, etc.		
4. Change Into Paper Scrubs and socks		
5. Step Into Crocs		
6. Wash your hands		
SEQUENCE TO DON PPE		
Apply Long Nitrile gloves		
Apply bonnet head covering(optional)		
Place PAPR belt around waist		
Clip PAPR battery to the belt on the left front side		
Put on Coveralls		
Put on foot covers		
Plug in PAPR helmet cord into PAPR battery		
Put on PAPR helmet and hood on head <ul style="list-style-type: none"> • Turn knob at the back of the unit to ensure helmet fits snugly 		
Zip up Coveralls		
Tie hood ties around neck in loose bow on the front of the hood		
Don Plastic Apron		
Apply Surgical Gloves		
SEQUENCE TO DOFF PPE		
Remove foot covers (while standing in the cleaner hot zone) <ul style="list-style-type: none"> • Bend one knee and pull foot cover off foot • Step onto doffing/chemical pad without touching your foot to the floor • Discard foot cover in the red bag waste • Bend other knee • Using same hand, pull foot cover off of second foot • Step onto doffing/chemical pad without touching foot to the floor • Discard foot cover in red bag waste 		

BOSTON MEDICAL CENTER
DONNING AND DOFFING OF PERSONAL PROTECTION EQUIPMENT CHECKLIST

PROCEDURE	MET	UNMET
Clean gloves with hand sanitizer		
Remove apron <ul style="list-style-type: none"> Grasp apron close to shoulder and pull forward away from the body breaking the ties Remove the plastic apron by rolling it inside out as you progress down the arms to the wrist and PAUSE Make a fist and remove surgical gloves with the apron Discard in red bag waste 		
Clean gloves with hand sanitizer		
Remove Coveralls <ul style="list-style-type: none"> Reach under PAPR hood with 1 hand, open zipper flap on front of coverall and pull down zipper Grasp the coverall at the shoulders Touching only the outside of the suit, shimmy shoulders out of suit and slowly pull suit off arms With feet, step on foot section of coverall and use a marching motion to move the coverall down legs Touching only the inside of the coverall, pick up coverall and discard in red bag waste 		
Clean gloves with hand sanitizer		
Step Into Anteroom		
Clean gloves with hand sanitizer		
Remove PAPR <ul style="list-style-type: none"> Untie hood with 1 hand Grasp both sides of hood at temples and unsnap from PAPR helmet Grasp and pinch face shield of the hood; pull forward to release the hood from the helmet pin Grasp top of the hood, rock the hood backwards then pull forward removing the hood in one motion Discard hood in red bag waste 		
Clean gloves with hand sanitizer		
Remove Non sterile long nitrile gloves using beaking method		
Wash hands		
Remove PAPR helmet, belt, and battery <ul style="list-style-type: none"> Hand to PPE/Site Manager 		
Step out of Crocs		

Signature of Participant _____ Date: _____

Signature of Trainer _____ Date: _____

Procedure for Care of Deceased persons with high risk infectious illness

Individuals directly handling the body bags with human remains are required to wear PPE**

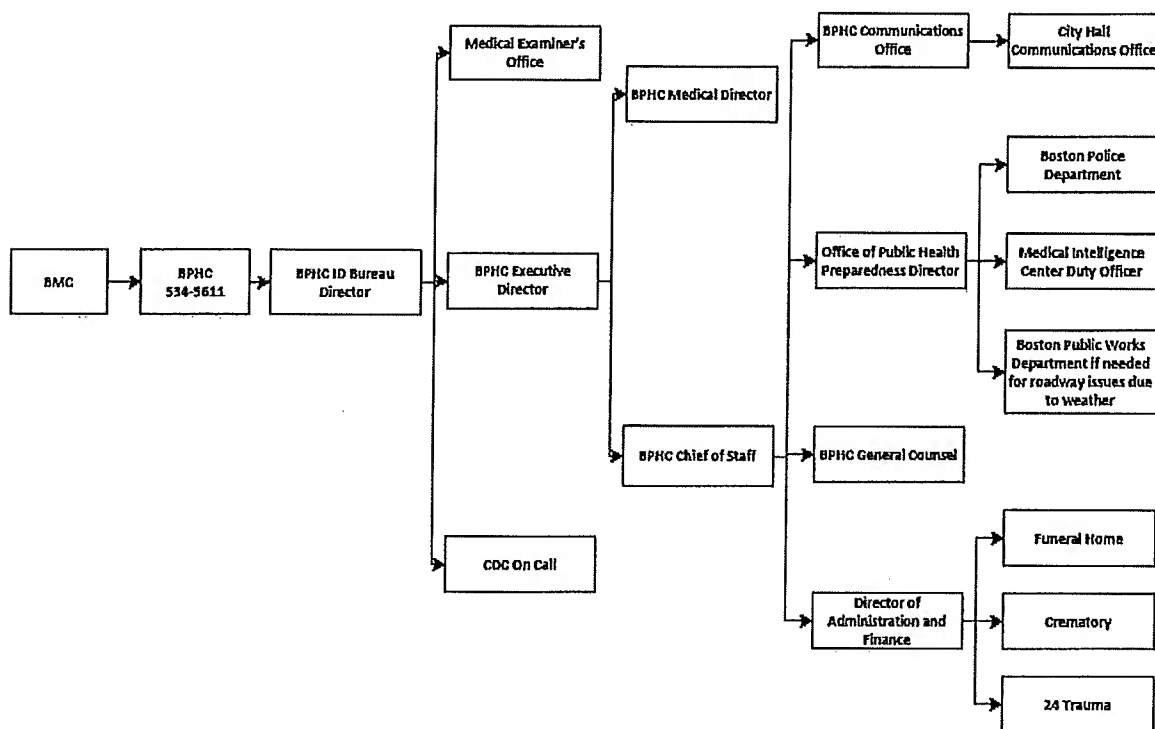
This protocol is in compliance with the Boston Public Health Commission, City of Boston Board of Health Protocol for Handling the Remains of a Person who Dies with Viral Hemorrhagic Fever or Other Specified Infectious Diseases signed on 11/16/15.

1. Permission for cremation

- ☐ A Decedent Affairs representative will meet with the family of the deceased individual and counsel them that cremation is the only available means for a safe final disposition.
- ☐ The representative will encourage the family to voluntarily sign the Cremation Authorization form.
- ☐ If necessary, a BPHC representative will sign the Cremation Authorization form and issue a Board of Health Order for Cremation to be submitted to the Crematory along with all other necessary documents.
- ☐ BPHC will activate their notification protocol

Boston Public Health Commission Notification Protocol

11/16/15



*Plastic body bag must be at least 150 µm thick

** PPE required includes: Impervious coverall, apron, double gloves, foot covers, and PAPR with disposable hood.

1. Preparation of the body for the Medical Examiner

- ☐ Preparation is done at the site of death
- ☐ Leave any intravenous lines or endotracheal tubes that may be present in place
- ☐ Avoid washing or cleaning the body
- ☐ Wrap the body in a plastic shroud - prevent contamination of the outside of the shroud.
- ☐ After wrapping, immediately place body in a leak-proof plastic body bag* and zipper closed
- ☐ Change your apron and gloves (if they are heavily contaminated with blood or body fluids doff out and don clean PPE before moving to the next step).
- ☐ Wipe the outside of the body bag with bleach wipes.
- ☐ The bagged body will remain at the site of death until examined by the Medical Examiner.
- ☐ Change your apron and gloves

2. Medical Examiner

- ☐ Medical Examiner will view the remains at the treating hospital, reading the chart, and viewing the remains as the ME deems appropriate.
- ☐ If the ME needs to enter the room, s/he will use appropriate infection control precautions.

3. Final Preparation of the body for transport

- ☐ The remains will be placed in two additional bags, wiping after each time with an approved disinfectant.
- ☐ The remains will then be placed into the supplied casket, suitable for cremation, provided by the Funeral Director. The casket will have an additional liner.
- ☐ Close the casket and wipe with an approved disinfectant.

4. Transport of the body to the morgue loading area

- ☐ A clean stretcher and plastic slide board to be placed at the ante space demarcation line (clean side).
- ☐ The bed will be moved to the demarcation line but remain on the dirty side.
- ☐ The slide board will be used to move the deceased to the clean stretcher.
- ☐ Two staff members will transport the deceased to the morgue loading area using standard precautions.
- ☐ Public Safety will clear the route of travel.
- ☐ The deceased will be transported directly from the unit via a waiting service elevator to the Menino basement morgue hallway through the tunnels to the funeral home pick up location for transport away from BMC to the pre-arranged crematory.

5. Cleaning the room

- ☐ Reusable equipment should be cleaned and disinfected according to standard procedures. For more information on environmental infection control, please refer to "Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus" (<http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html>).

6. Vehicular Transportation of human remains

- ☐ Funeral Director William Spencer (Type 3 Licensed Funeral Director) will transport the remains to St. Michael's Crematory using standard precautions.
- ☐ Transportation to the Crematory will include Boston Police Department, and if needed for weather related concerns Department of Public Works.

*Plastic body bag must be at least 150 µm thick

** PPE required includes: Impervious coverall, apron, double gloves, foot covers, and PAPR with disposable hood.

- ☐ Transportation will also include 24/Trauma to the crematory, crematory staff will do the placement of the remains in retort.

7. Documentation

- ☐ The Death Certificate for the deceased person will be submitted on-line through the VIP System <https://gateway.hhs.state.ma.us/authn/index.jsphn> in the Virtual Gateway
- ☐ Treating hospital will start the record in the Vital Information System.
- ☐ If the Pronouncing Physician is an e-certifier they can e-certify.
- ☐ If the Pronouncing Physician is not an e-certifier they can sign the fax attestation form and fax into the record in VIP.
- ☐ William Spencer, Type 3 Licensed Funeral Director will claim record and complete the record based on the Informant Verification Form.
- ☐ BPHC and/or Funeral Director will get the Medical Examiner/Forensic Investigator form from hospital staff.
- ☐ Certificate for St. Michael's Crematory along with the on-line Cremation Certificate will be signed and given to Funeral Director.
- ☐ The Burial Agent will check the record for completeness and accuracy, the permit will be issued, the permit will be released for cremation only. BPHC will issue the permit and provide to the Funeral Director and /St. Michael's Crematory.
- ☐ 24/Trauma will be on site, if their services are needed.

The Boston Public Health Commission will only approve cremation as the final disposition of any remains, as burial in the Commonwealth will not be an option.

Boston Public Health Commission will not issue a Permit for any whole body and/or any body parts to leave the Commonwealth of Massachusetts for burial in another state or another country

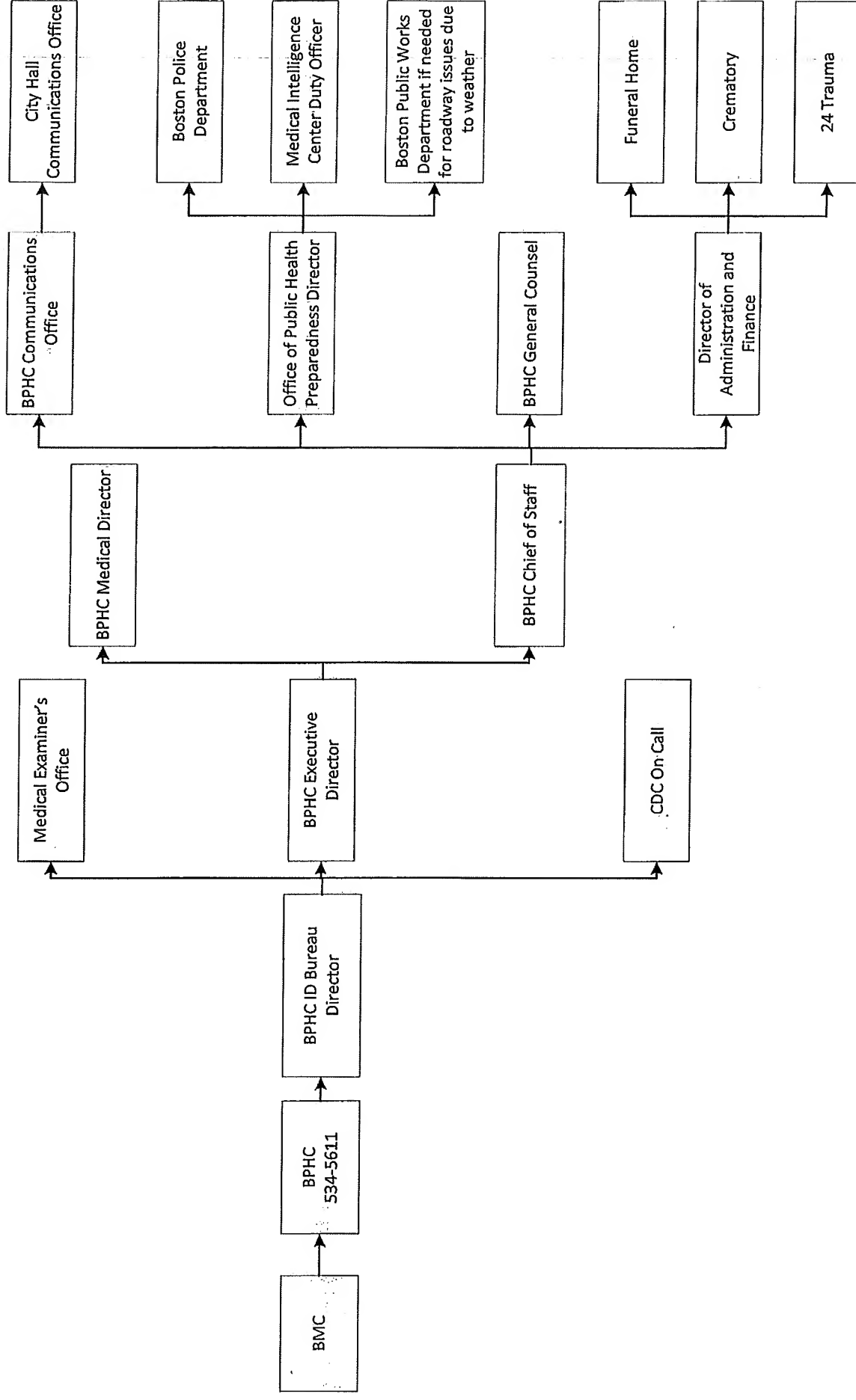
The treating hospital will be unable to issue a Non-Contagious Disease certification

*Plastic body bag must be at least 150 µm thick

** PPE required includes: Impervious coverall, apron, double gloves, foot covers, and PAPR with disposable hood.

Boston Public Health Commission Notification Protocol

11/16/15



Special Pathogens Unit (SPU) Trainings List And Elements

- 1) Large group hospital wide PPE training (Fall 2014, Spring 2015)
 - PPE donning and doffing
 - Hand hygiene
- 2) Ebola Super user training (Spring 2015) (35 ICU nurses, nurse managers and MDs)
 - Principles of biocontainment
 - Emerging Pathogens and infection control
 - PPE donning and doffing

Summer and Fall 2015 Trainings

- 1) One day class room and PPE training
(2 pulmonary MDs, 5 ID MDs, 2 respiratory technicians, 1 anesthesiology/Surgical ICU MD, 35 7W nurses, 10 ICU nurses, 10 Eascare EMS staff)
Competency: PPE checklist, real time skills demonstration
 - NEIDL back up medical program overall structure and policies
 - Principles of biosafety
 - Care of VHF patients
 - VHF and infection control
 - Occupational health policies and SPU functions
 - Overview of SPU unit policies: event-based cleaning, waste disposal, lab transport
 - Operations of point-of-care testing
- 2) In unit SPU super user training (November 2015)
(ID MDs, 1 anesthesiology MD, 2 respiratory technicians, 38 RNs- ICU and 7W)
Competency: Real time return skills demonstration, Trainer assessment to BMC leadership, Phlebotomy and blood culture checklists)
 - Orientation to SPU space and resources
 - Donning and doffing in SPU
 - Phlebotomy skills update (RNs only)

Spring 2016 Trainings

- 1) In unit protocols training
Competency: PPE checklist, real time skills demonstration
 - PPE donning and doffing
 - Waste disposal
 - Lab specimen preparation and handling
 - Scenario based approach to PPE breaches and decontamination
 - Phlebotomy
 - "Man down" evacuation

2) Second NEIDL/SPU Medical Incident Drill

-Transport of sick researcher from home community to SPU

Winter 2016/Spring 2017 Trainings

2) In unit protocols training

Competency: PPE checklist, real time skills demonstration

-PPE donning and doffing

-Human waste decontamination and disposal

-Scenario based approach to PPE breaches and decontamination

-Phlebotomy

-MDs only: central line placement

-Limited ACLS

-Decontamination and transport of deceased patient

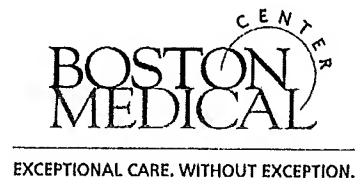
2) Third NEIDL/SPU Medical Incident Drill

-Medical emergency in BSL4 suite requiring urgent decontamination and transport

Operation Out and Over

After-Action Report/Improvement Plan

16 November 2015



OVERVIEW

Name	Operation Out and Over		
Dates	16 November 2015		
Scope	This exercise is a full-scale exercise planned for four hours at the National Emerging Infectious Diseases Laboratory and Boston Medical Center. Exercise play is limited to the NEIDL BSL4 space, BMC Patient Isolation Unit and the Milton Department of Public Health.		
Mission Area(s)	Response		
Core Capabilities	Medical Treatment and Transport of an Exposed Researcher		
Objectives	Test NEIDL Medical Incident Response Plan with Transport to BMC Test BMC PIU patient receiving procedures Test Discharge procedures Test EasCare Ambulance transport procedures		
Threat or Hazard	Man-Made		
Scenario	Scenario 1 Researcher suffers a needle stick in maximum containment with possible exposure. Scenario 2 A researcher working in BSL 4 containment with Marburg Virus sustained a needle stick 10 days ago and was treated with counter measures prior to being released to home in Milton under surveillance by ROHP and Public Health. The researcher calls to report the onset of fever (102F), chills, and general malaise this morning.		
Sponsor	Boston University and Boston Medical Center		
Participating Organizations	BMC BU BPHC MDPH	BEMS BFD BPD EasCare Ambulance	MA DPH Milton Dept. of Public Health
Point of Contact	<div>██████████</div> Director, Emergency Management <div>██████████</div> Director, Emergency Management		

1941-1942

1943-1944



Boston University
704 Commonwealth Avenue
Boston MA 02215

[REDACTED]

[REDACTED]

Boston Medical Center
85 East Newton Street, Room 405
Boston MA 02118

[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Test NEIDL Medical Incident Response Plan with Transport to BMC	Public Health and Medical Services	P			
Test BMC PIU patient receiving procedures	Public Health and Medical Services	P			
Test EasCare Ambulance transport procedures	Public Health and Medical Services	P			
Test the Discharge Process	Public Health and Medical Services		S		
Ratings Definitions: <ul style="list-style-type: none"> • Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. • Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified. • Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws. • Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s). 					

Table 1. Summary of Core Capability Performance

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

Objective 1

Test NEIDL Medical Incident Response Plan with Transport to BMC

Core Capability 1

On Site Incident Management

Strengths

The Full capability level can be attributed to the following strengths:

Strength 1: Notifications to the Control Center and to the Medical Incident Response Team were made in a timely manner.

Strength 2: The Emergency Response Team initiated and performed their duties according to the Medical Incident Response Plan.

Strength 3: There was good coordination between the Research Occupational Health Program (ROHP) and Boston Medical Center.

Areas for Improvement

Based upon observation there were no significant areas of improvement needed.

Core Capability 2

Public Safety and Security Response

Strengths

The Full capability level can be attributed to the following strengths:

Strength 1: Public Safety Supervisor was on the Initial Conference Call and initiated their response plans.

Strength 2: Public Safety conducted proper access procedures for EasCare Ambulance.

Strength 3: There was good communication and coordination between NEIDL Public Safety, BU Emergency Management and Boston Medical Center concerning the patient transport process.

Areas for Improvement

Based upon observation there were no significant areas of improvement needed.

1

Objective 2

Test BMC PIU patient receiving procedures

Core Capability 1

Public Health and Medical Services

Strengths

The full capability level can be attributed to the following strengths:

Strength 1: Detailed Procedures were developed, trained, and followed in the exercise.

Strength 2: Staff actions indicated a high level of knowledge and comfort with the procedures that fostered success.

Strength 3: The procedures were well thought out, organized, and operationally sound.

Areas for Improvement

Based upon observation there were no significant areas of improvement needed.

Objective 3

Test EasCare Ambulance transport procedures

Core Capability 1

Public Health and Medical Services

Strengths

The full capability level can be attributed to the following strengths:

Strength 1: Detailed Procedures were developed, trained, and followed in the exercise.

Strength 2: Staff actions indicated a high level of knowledge and comfort with the procedures that fostered success.

Strength 3: The procedures were well thought out, organized, and operationally sound.

Areas for Improvement

Based upon observation there were no significant areas of improvement needed.

Objective 4

Test the Discharge Process

Core Capability 1

Public Health and Medical Services

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: Staff actions indicated a high level of knowledge and comfort with the elements necessary for a comprehensive discharge plan.

Strength 2: Ensuring that procedures for the notification of Public Health agencies followed the same process for other communicable diseases simplified the process and contributed to success.

Strength 3: A collaborative approach to discharge planning that includes local and state public health representatives ensures that discharge decisions are made based on evidence and individualized environmental conditions.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1:

A discharge procedure exists but could be enhanced by developing a detailed discharge check list to facilitate a comprehensive review of patient and family teaching and understanding, environmental conditions, notifications to public health agencies, support systems for emotional, physical, and logistical issues, reporting requirements and limitations, etc.

Area for Improvement 2:

Preplanning with local communities prior to an event to share information on capabilities and resources available to respond to a developing illness in the community should be considered.

Analysis: While the drill included the notification of local and state public health agencies, it was not developed to drill deeper into the discharge process. This gave rise to many questions during the review process. Many of the questions raised in review were answered but not detailed in the discharge procedures. In addition, public health agencies participating in the exercise were not familiar with the PIU procedures nor the capabilities and resources available to support those procedures.

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Boston University and Boston Medical Center as a result of Operation Over and Out conducted on November 16, 2015

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element ¹	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Public Health and Medical Services	1. Discharge Planning	Develop a discharge Check list	Planning	BMC	[REDACTED]	December 2015	February 2016
		Conduct pre event information sessions for Public Health agencies to demonstrate PIU procedures and capabilities.	Training	BMC/BU	[REDACTED]	December 2015	February 2015

¹ Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

Appendix A: Improvement Plan

A-1
Boston University and Boston Medical Center
Boston University Exercise and Evaluation Program (BUSEEP)

BU/BMC

11

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Boston Medical Center	
BMC Incident Management Team	
BMC Infectious Disease	
BMC PIU Medical Director	
BMC PIU Nurse Manager and Educator	
BMC Clinical and Clinical Support Staff	
BMC Occupational Health	
Boston University	
NEIDL Emergency Response Team	
NEIDL Public Safety	
NEIDL Researcher	
Research Occupational Health Program	
Boston University Police	
Off Site Responders	
Boston Public Health Commission	
Boston Emergency Medical Services	
EasCare Ambulance	
Massachusetts Department of Public Health	
Milton Department of Public Health	
Observers	
Boston Public Health Commission	
NEIDL Community Liaison Committee	



EXCEPTIONAL CARE. WITHOUT EXCEPTION.

Office of Emergency Preparedness

**After Action Report
Operation Out and Over
Monday November 16, 2015
BMC Detailed Action Items**

This report is intended as an appendix to the official Operation Out and Over After Action Report.

Strengths

Staff actions indicated a high level of knowledge and comfort with the procedures that fostered success.

The procedures were well thought out, organized, and operationally sound.

Staff actions indicated a high level of knowledge and comfort with the elements necessary for a comprehensive discharge plan.

Ensuring that procedures for the notification of Public Health agencies followed the same process for other communicable diseases simplified the process and contributed to success.

A collaborative approach to discharge planning that includes local and state public health representatives ensures that discharge decisions are made based on evidence and individualized environmental conditions.

Opportunities

While the drill included the notification of local and state public health agencies, it was not developed to drill deeper into the discharge process. This gave rise to many questions during the review process. Many of the questions raised in review were answered but not detailed in the discharge procedures.

Public health agencies participating in the exercise were not familiar with the PIU procedures nor the capabilities and resources available to support those procedures.

A discharge procedure exists but could be enhanced by developing a detailed discharge check list to facilitate a comprehensive review of patient and family teaching and understanding, environmental conditions, notifications to public health agencies, support systems for emotional, physical, and logistical issues, reporting requirements and limitations, etc.

Preplanning with local communities prior to an event to share information on capabilities and resources available to respond to a developing illness in the community should be considered.

Actions

Item	Assigned	Status	
		Initiated	Closed
Add a task for transport to clear the back hallways of all equipment.			
Tighten the back hallway pedestrian control plan to prevent entry to the area from ED side A, B, Trauma, and Radiology			
Obtain a list of information needed for admitting that will be completed by PIU staff and faxed to admitting for registration and admission			
Separate the supplies needed for the EMS transfer in the tent from the main supply cart to make deployment easier			
Investigate a new bootie that will be more durable			
Add water and Gatorade to the cart			
Individualize the EMS Go Bags			
Develop a discharge checklist			
Conduct pre event information sessions for Public Health agencies on PIU procedures and capabilities			

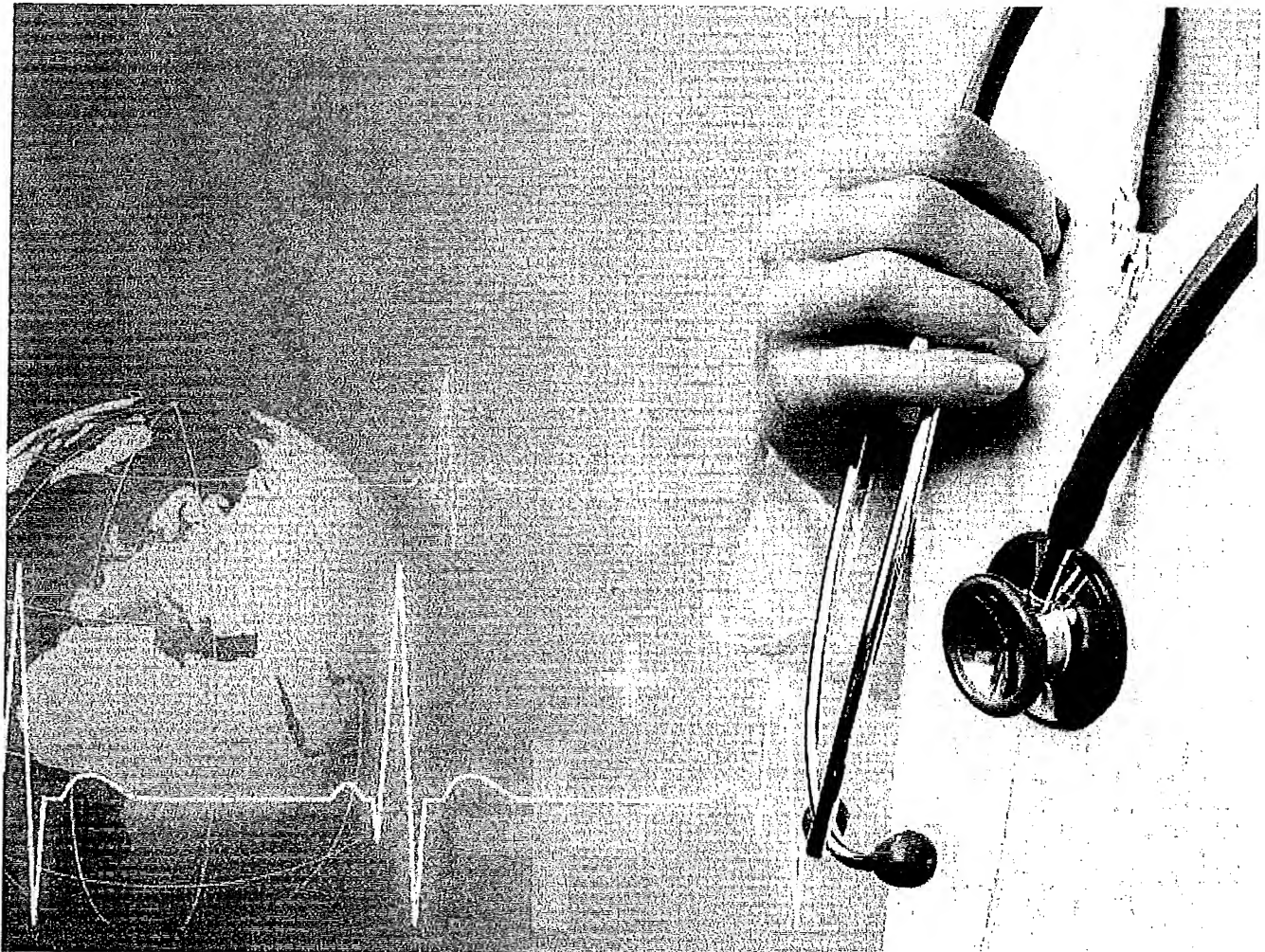


Boston Medical Center

"Super Users"

Strategies for Clinical Containment of Emerging Infectious Diseases

Evaluation Results



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**BEHAVIORAL-BASED
IMPROVEMENT SOLUTIONS**
Changing behavior. One step at a time.



Pre-Program Evaluation

Pre-Course Evaluation	A	B	C	D	F
Please grade the following items for the Isolation Unit:					
A: Excellent; B: Good; C: Fair; D: Poor; F: Unacceptable					
Engineering Controls: Directional Airflow, HEPA Filtration, Entry and Access Point Control, Interlocking Door Systems	37%	43%	13%	7%	-
Personal Protective Equipment (PPE): PAPR, Respirator, Gloves, Booties, Tyvek Gown, Eye and Ear Protection	43%	47%	5%	5%	-
Standard Operating Procedures (SOPs): Entry and exit process, Isolation decontamination, emergency procedures, handling sharps	19%	57%	19%	5%	-
Administrative Controls: Immunizations, Security Clearance, Medical Surveillance Programs, Training and SOP compliance programs	8%	72%	15%	5%	-
Please grade yourself on the following items:					
Understanding of risk in Isolation unit	20%	56%	17%	7%	-
Understanding of benefit for all Isolation unit SOPs	23%	49%	23%	5%	-
Access to resources needed to do work safely	2%	51%	37%	10%	-
Skills to work safely in the Isolation unit	2%	33%	42%	23%	-
Readiness to work in the Isolation unit safely	7%	25%	43%	20%	5%

Additional comments are welcomed...

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Post-Program Evaluation

Post-Course Evaluation	A	B	C	D	F
Please grade the following items for the Isolation Unit:	A: Excellent; B: Good; C: Fair; D: Poor; F: Unacceptable				
Engineering Controls: Directional Airflow, HEPA Filtration, Entry and Access Point Control, Interlocking Door Systems	84%	14%	2%	-	-
Personal Protective Equipment (PPE): PAPR, Respirator, Gloves, Booties, Tyvek Gown, Eye and Ear Protection	80%	17%	3%	-	-
Standard Operating Procedures (SOPs): Entry and exit process, Isolation decontamination, emergency procedures, handling sharps	73%	22%	5%	-	-
Administrative Controls: Immunizations, Security Clearance, Medical Surveillance Programs, Training and SOP compliance programs	59%	35%	6%	-	-
Please grade yourself on the following items:					
Understanding of risk in Isolation unit	72%	28%	-	-	-
Understanding of benefit for all Isolation unit SOPs	67%	33%	-	-	-
Access to resources needed to do work safely	52%	48%	-	-	-
Skills to work safely in the Isolation unit	46%	54%	-	-	-
Readiness to work in the Isolation unit safely	46%	48%	3%	3%	-

- I now feel more confident. I now feel more comfortable in PPE. I now have more understanding of acute scenarios with nursing and patients.
- Need more of the same program! Excellent!
- Thank you very much. I really feel much better about it.
- Thank you for making us feel more confident.
- Thank you.
- I really loved this! I felt so much more confident by the end.
- I thoroughly enjoyed this program!
- It really boosted my confidence in our ability to care for EID as well as receiving every possible scenario.
- Thank you so much!
- We need more time.
- Excellent hands-on training.
- Thank you! Most interactive, exciting, fun course provided.
- Recommend a different organization of how to implement SOPs, etc.
- Really wonderful! Thank you so much!

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Final Course Evaluation		A	B	C	D	F
Please grade the following items for the training program:		A: Excellent; B: Good; C: Fair; D: Poor; F: Unacceptable				
Course materials	73%	27%	-	-	-	
Instructors	94%	6%	-	-	-	
Delivery of Course	91%	9%	-	-	-	
Overall Course	94%	6%	-	-	-	
Please answer the following questions:		Yes			No	
Would you recommend this course to other professionals?		100%			-	
Did your knowledge of clinical containment increase as a result of this course?		97%			3%	
Did your skills in clinical containment increase as a result of this course?		100%			-	

List three adjectives which describe this course.

enlightening
 understanding
 experience exciting
 resourceful fun decreasing
 knowledgeable
 excellent comprehensive anxiety
 energetic positive realistic appropriate
 outstanding easily useful good
 amazing understood building
 unique beneficial intense exposing
 dynamic
 empowering educational
 helpful supportive understandable
 interactive
 informative thorough
 necessary